APPENDIX G:

U.S. FISH AND WILDLIFE SERVICE CONCURRENCE

United States Department of the Interior

FISH AND WILDLIFE SERVICE

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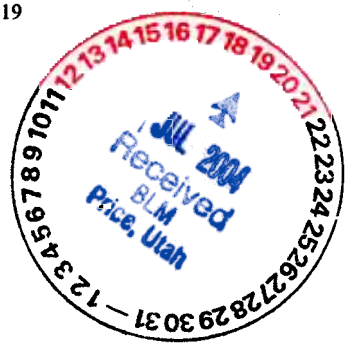

In Reply Refer To
FWS/R6
ES/UT
03-0499

July 16, 2004

Memorandum

To: Manager, Price Field Office, Bureau of Land Management, Price, Utah

From: Utah Field Supervisor, Ecological Services, U.S. Fish and Wildlife Service, Salt Lake City, Utah

Subject: Informal Section 7 Consultation on the Bill Barrett Corporation's West Tavaputs Plateau Drilling Program, Carbon County, UT

Proposed Action:

The Fish and Wildlife Service (Service) has reviewed the Biological Assessment (BA) for the Bill Barrett Corporation's (BBC) West Tavaputs Drilling Program, in Carbon County, Utah. The BA was prepared for Alternative C of the Environmental Assessment. BBC has proposed 12 federal well pads with a potential disturbance of 33 acres, 10 state well pads with a potential disturbance of 27 acres (totaling 60 acres), and up to 16 directional wells from existing pads. Approximately 8 miles of new road with 52 acres of disturbance, 8 miles of upgraded road with 65 acres of disturbance, and 29 miles of gas pipeline are associated with Preferred Alternative. The pipelines will be a combination of both buried and surface installation. Pipelines will include a 20-foot width of disturbance for a total area of 22 acres for surface laid pipelines and a 60-foot width of disturbance for buried pipelines for a total area of 74 acres. Total surface disturbance associated with actions of Alternative C is 255 acres. All work will take place between May 16 and October 31, except where noted below.

In addition, between 18 and 26 acre-feet of ground water and surface water would be used for drilling and completion in 2004. Estimates are based on the reported use of approximately 2 acre-feet for each well. Approximately 20-acre feet per year of surface water would be used for dust suppression. Estimates of water use for dust suppression are based on the use of 10 trips with 4,200 gallon trucks per day for 100 days per year. An additional 20 trips per day could be required when moving drilling rigs in and out. Based on the aforementioned information, total water use for 2004 would be between 38 and 46 acre-feet.

In outline, Alternative C actions include:

Dry Canyon/Nine Mile Canyon Pipelines

- 27,720 feet of buried 12 inch pipeline in Dry Canyon
- 39,040 feet of buried 16 inch pipeline in Nine Mile Canyon
  Numerous pipeline crossings of Nine Mile Creek

Compressor Consolidation

- Remove the existing Water Canyon Compressor station and relocate to Dry Canyon BBC Ancillary facility site.
- Eliminate the Sagebrush Flat Compressor Station

Well Locations

- Eliminate well #27-3 in the bottom of Dry Canyon and add well #PP8-33

The following actions are incorporated into Alternative C by reference, from the proposed action:

- Construction/drilling of 12 federal gas wells (three of which would be drilled from existing well pads);
- Construction/drilling of 10 wells on State lands;
- Construction/drilling of 16 additional directional wells, (using existing well pads or well pads analyzed in this EA);
- Construction of approximately 13 miles of new roads on federal lands (to access proposed federal wells or State lands);
- Repair/upgrade of 8 miles of existing roads;
- Replacement of old/inadequate gas pipelines with new and larger capacity lines;
- Increased compression to accommodate additional production;
- Water depletion to the Colorado River system may approach 46 acre-feet per year.

Bill Barrett Corporation and the BLM have committed to implement the following mitigation measures (EA and BA) in areas identified as potential habitat for all species analyzed in the BA:

Plant Species:

- Site inventories for Barneby Ridge-cress, shrubby-reed mustard, Uinta Basin hookless cactus, Ute ladies-tresses, Graham beardtongue will be required for all proposed disturbed areas prior to initiation of construction work.
- Upon discovery of populations or individual plants of these species within proposed disturbance areas, surface-disturbing activities would be halted and consultation with the Service would be reinitiated.

Animal Species

- Complete construction/drilling activities proposed within Designated Critical Habitat, overlooking identified MSO nesting-roosting habitat, outside MSO nesting season March 15 to August 31.
- When areas proposed for construction activity occur within .5 miles of identified canyon habitat or within .5 mile from canyon rim overlooking identified MSO habitat, presence/absence surveys for owls in nesting roosting MSO habitat will be conducted in accordance with Service protocol.
- Employ best available technology on production wells and compression equipment within .5 miles of canyon habitat to reduce effects of noise on MSO nesting-roosting habitat, as depicted in the Service's 1997 and 2000 habitat models, and confirmed by field review.
- To the degree practicable, locate well pads and other permanent facilities 600 feet or further from canyon rims identified as canyon habitat for the Mexican spotted owl.
- Upon discovery of individuals or sightings of any Federally listed species, halt potentially impacting construction/drilling activities and reinitiate consultation with the Service.
- To replace the riparian vegetation removed during all phases of construction of the proposed buried pipelines, BBC would establish riparian tree and willow vegetation as part of their proposed revegetation. Trees and shrubs planted would include the use of wild land salvage and transplanting, containerized or bare root plants, native willow cuttings and seed. Reclamation will also include the use of planting container stock (10 cu in plugs) for riparian herbaceous species (sedges and rushes).
- Water use for drilling, completion, and dust-suppression will be monitored, and if water use exceeds the 46 acre-feet consulted upon, consultation will be reinitiated.
- BBC will incorporate automatic pressure-based leak detection systems, with a commitment to ensure on-call personnel to respond within two hours.

Informal Consultation:

Based on the information provided in the May 2004 Environmental Assessment, the June 21, 2004 Biological Assessment, including the aforementioned project commitments specific to the Mexican spotted owl; Utah Field Office Guidelines for Raptor Protection from Human and Land Use Disturbances (2002); the Mexican Spotted Owl Recovery Plan (1995); field reviews conducted by David Willey (1997 and 2000) and Environmental Industrial Services (EIS)(2001 through 2003); a June 10, 2004 meeting at the Service's office between Diana Whittington and Laura Romin of our office and David Mills and Ron Bolander of the BLM, e-mail communications between our office and the BLM office (March 30, March 31, April 19, April 28, May 13, May 19,June 3, June 9, June 16, July 9, July 14, July 15, and July 16, 2004); phone conversations between our office and the BLM, (March 30, April 15,May 6, May 12, May 13, May 27, June 4, June 7, June 17, June 23, June 24, July 7, July 9, and July 13, 2004) the U.S. Fish and Wildlife Service concurs with your determination that the proposed project and will have no effect on black-footed ferret and Canada lynx. In addition, critical habitat does not occur for these species in the project area.

We concur with your determination that the proposed project is not likely to adversely affect the Mexican spotted owl, bald eagle, Barneby Ridge-cress, shrubby reed mustard, Uinta Basin hookless cactus, and Ute ladies'-tresses. In addition, we concur that the project will not result in adverse modification or destruction of designated critical habitat.

We base our concurrence primarily on the following:

Mexican spotted owl:

Mexican spotted owls in Utah breed and forage in steep-walled canyon complexes; these areas are typically cool, moist environments; however, owls have been located in dry, arid habitats with minimal vegetation (Mexican Spotted Owl Recovery Plan, 1995). The common characteristics of canyon sites is the presence of steep to vertical rock walls in all or part of the canyon. Foraging appears to occur primarily within the canyons or along the rim of the canyon (Willey 1998).

The Service has requested that federal agencies conduct initial analyses of potential project impacts using predictive Mexican spotted owl habitat models that were developed for the state of Utah (Willey 1997, 2000). Model components include elevation, slope, curvature, and vegetation themes at a 1:250,000 scale. The 1997 model relies on a curvature index, so is valuable in predicting surface ruggedness that is indicative of potential habitat. The 1997 model should be used for first-cut analysis of large scale projects to identify areas with high-relief topography. A subsequent Mexican spotted owl model was developed in 2000. The 2000 model, which resulted from field testing the 1997 model, includes additional variables such as: geology suitable for forming steep cliffs; aspect; a radiation index to predict areas with the cooler temperatures that the Mexican spotted owl appears to require; and steep slope mixed conifer habitat that is protected or restricted under the Recovery Plan. Field verification such as that conducted by David Willey for this project is necessary to confirm actual habitat (Willey, 2002).

Surveys were conducted in all identified potential nesting/roosting habitat (1997 and 2000 habitat model) within the project area by Environmental Industrial Services (EIS) following Service protocol (2001 through 2003). These surveys did not verify the presence of owls in potential habitat within the project area. A Mexican spotted owl was detected outside the project area on April 16, 2004, DeeAnn Kennick, EIS, personal communication June 7, 2004. This site was approximately 1 mile outside the project area and 2 to 3 miles from the closest action. Follow-up monitoring is proposed to determine if this sighting represents an occupied territory. If it is determined to be an occupied territory, BLM will coordinate with the Service to establish a Protected Activity Center (PAC) according to the MSO Recovery Plan. Although the MSO has not been found nesting within the proposed action area, a nest has been found 25 miles to the southeast, and the project area still contains potential habitat.

The Dry Canyon buried pipeline will result in disturbing riparian habitat, a restricted habitat for the MSO. Successful reclamation will assure this affect is short term, 3-5 years. The large increase in human activity during a 1-3 year period of development (vehicle traffic, transportation of equipment) will reduce the suitability of these Nine Mile and Dry Canyons as

nesting/roosting habitat for that time period. Since there is no known occupied habitat in these areas, the action would not affect known populations. Both the pipeline installation and development traffic will reduce the suitability of the habitat area for future occupancy for an estimated 3-5 years, however the presence of an existing road has established an already disturbed condition. Long-term maintenance and operation of the field would require much reduced activity levels and would not be expected to reduce suitability over current conditions.

The drilling/construction actions proposed in Alternative C would occur principally in foraging habitat. Foraging habitat suitability could be reduced during the drilling construction period and surface disturbance will eliminate some habitat as foraging habitat. However, foraging habitat for this species is considered to be widespread and is not considered to represent a limiting factor for the MSO in the project area.

Consolidation of the three existing compressor sites at the Dry Canyon facility (elimination of the Sagebrush Flat Site and relocation of the Water Canyon Site to the Dry Canyon facility) will reduce potential adverse affects to the MSO. Noise impacts to owls have not been studied in canyon habitat, or under 24-hour conditions. However, acoustic studies on effects of short-term noise on MSO in forested habitat indicate that noise could influence habitat suitability up to 400 meters from the noise generation site (Delaney and Grubb, 2003). Assuming a 400 meter noise impact radius around each of the three compressor sites, consolidation of the compressor sites will reduce the number of acres of potential habitat affected by noise from approximately 370.5 to 123.5.

Due to the survey reports that no owls have been confirmed nesting in the project area, the existing level of disturbance, the reduction in noise disturbance from compressor consolidation, and the aforementioned applicant committed mitigation measures, we do not believe this project will incur a "take" of the Mexican spotted owl. "Take" includes harm and/or harass by actions that result in a significant habitat modification or degradation that results in injury or death, or significant disruption of normal behavioral patterns such as breeding, feeding or sheltering that results in injury or death. In addition, habitat degradation will be minimized to the insignificant level. Therefore, we concur that the proposed action is not likely to adversely affect the Mexican spotted owl.

However, based on available noise information and the continued suitability of habitat in the project area, we recommend the following as a conservation measure: when possible, a 1200 feet (400 meter) buffer should be established from the rim of canyons identified as suitable nesting-roosting habitat.

MSO Designated Critical Habitat:

The eastern portion of the project area has been identified by the Service as Designated Critical habitat for the Mexican Spotted Owl. Designated Critical Habitat is deemed vitally important for the protection of occupied habitat as well as to provide protection for the species to expand into suitable but currently unoccupied habitat areas.

The primary constituent elements of a species' critical habitat are those physical and biological features that are essential to conservation of the species and that may require special management considerations or protection. Such requirements include, but are not limited to – space for individual and population growth, and for normal behavior; food, water, or other nutritional or physiological requirements; cover or shelter; sites for breeding, reproduction, or rearing of offspring; and habitat that are protected from disturbance or are representative of the historic geographical and ecological distributions of a species.

For canyon, habitat, such as that which is present in eastern portion of the project area, the primary constituent elements include one or more of the following attributes:

- Cooler and often more humid conditions than the surrounding area;
- Clumps or stringers of trees and/or canyon walls containing crevices, ledges, or caves;
- High percent of ground litter and woody debris; and
- Riparian or woody vegetation (although not at all sites).

Although 3 well re-entries, approximately 2.75 miles of road upgrade, and approximately 6.5 miles of surface pipeline-laying will occur within the boundaries of the Designated Critical Habitat (DCH) polygon, these actions will take place primarily in the benchland above canyon habitat. Therefore, there will be no direct surface disturbance effect to primary constituent elements. Potential effects to nesting-roosting behavior could occur from noise associated with construction and maintenance operations, but the BLM and BBC have committed to conduct construction activities in DCH outside the MSO breeding season of March 15 to August 31.

Due to the minimal amount of surface disturbance to protected and restricted habitat and the aforementioned applicant-committed mitigation measures, we do not believe this project will result in an adverse modification or destruction of designated critical habitat. "Adverse modification or destruction" includes alteration of one or more of the primary constituent elements of protected or restricted habitat to an extent that the value of critical habitat for both the survival and recovery of the Mexican spotted owl is appreciably reduced.

Again, we do believe a wider buffer from canyon rims should be employed to maintain suitable habitat conditions long term. As previously recommended, based on available noise information, a buffer of 1200 feet from canyon rims above identified MSO habitat will minimize noise effects.

Bald eagle:

Human disturbances within 0.25 miles of bald eagle winter roost sites and within 1.0 miles of nest sites are considered a potential impact to the bald eagle, depending in part, on activity type, duration, timing, and topography [*Utah Field Office Guidelines for Raptor Protection from Human and Land Use Disturbances* (2002)]. No known bald eagle roost sites occur within, or within one-half mile of the project area. In addition, no bald eagle nest sites are known to occur within one mile of the project area; the nearest bald eagle nest site is located approximately 75 miles from the project area.

Wintering eagles occur in southeastern Utah from November 1 through March 31, and may infrequently travel through the project area. Though no bald eagles are known to nest in Carbon County, they can often be found near lakes and reservoirs, as well as within upland areas between late fall and early spring. The Green River, approximately four miles to the east of the proposed project area, is known to be a winter use area supporting up to 30 individuals distributed along 90 miles of the Green River. However, the project area does not contain habitat suitable for winter roost sites within 0.25 miles of project activities.

This species occurs throughout the project area as an infrequent winter visitor. However, the proposed time frame for the installation and construction activities of the project would occur outside the wintering season. Project-related operational and maintenance activities may result in short-term displacement of wintering bald eagles, and construction activities may result in temporary displacement of migrants. We do not believe this incurs a "take" of the bald eagle due to the short-term nature of the activities and the availability of better foraging habitat in adjacent areas. "Take" includes harm and/or harass by actions that result in a significant habitat modification or degradation that results in injury or death, or significant disruption of normal behavioral patterns such as breeding, feeding or sheltering that results in injury or death. Therefore, we concur that the proposed action is not likely to adversely affect the bald eagle.

Plants; Barneby Ridge-cress, shrubby reed-mustard, Uinta Basin hookless cactus, and Ute ladies'-tresses:

Areas suspected to contain potential habitat for Barneby Ridge-cress consist of white shale outcrops on the Uinta formation in pinyon-juniper (mainly on ridge crests) between 6,200 and 6,500 feet elevation, flowering from May to June.

Areas suspected to contain potential habitat for shrubby reed-mustard consist of barren, white shale layers of the Evacuation Creek member of the Green River Shale formation in mixed desert shrub and pinyon-juniper communities on slopes of various aspect between 5,400 and 6,000 feet elevation, flowering from May to mid August.

The Uinta Basin hookless cactus is known to be found in Duchesne, Uintah, and northern Carbon counties. The cactus is found occupying gravelly hills and terraces on alluvium soils. They live in cold shrub communities between 4,700 and 6,000 feet in elevation. The closest known occurrence of this species is approximately 8 miles to the east of the project area on terraces above the Green River. They flower between the months of May and June.

Ute ladies'-tresses occurs in Daggett, Duchesne, Garfield, Tooele, Uintah, Utah, Wayne, and Wasatch counties, Utah. It also occurs in the states of Colorado, Idaho, Montana, Nebraska, Nevada, Washington, and Wyoming. A member of the orchid family, this species is a perennial herb with a flowering stem, 20-50 cm tall that arises from a basal rosette of grass-like leaves. The flowers are ivory-colored, arranged in a spike at the top of the stem, and bloom mainly from late July through August. Ute ladies'-tresses is found in moist to very wet meadows, along streams, in abandoned stream meanders, and near springs, seeps, and lakeshores. It grows in sandy or loamy soils that are typically mixed with gravels. In Utah, it ranges in elevation from 4,300 to 7,000 feet.

General occurrence surveys completed in 2001-2002 for the Stone Cabin 3_D Seismic project did not verify the presence of the aforementioned four species. However, the area does contain habitat similar to those in which these species are primarily located, (BA for Bill Barrett Corporation Stone Cabin 3-D Seismic Survey Project, BLM, August 10, 2003). A survey of site specific surface disturbed areas will be completed prior to initiation of surface disturbing activity. Survey of findings, including copies of the site field reports completed at the time of the survey will be submitted to BLM for final review prior to initiation of field work. Upon the finding of a population or individual listed plants, consultation will be reinitiated with the Service.

Due to the low probability of occurrence of these four plant species, and the aforementioned applicant-committed mitigation measures, we believe that affects to individuals, populations, and their habitat will be minimized to insignificance. Therefore, we concur that the proposed action is not likely to adversely affect the Barneby Ridge-cress, shrubby reed mustard, Uinta Basin Hookless cactus, or Ute ladies'-tresses.

Colorado River Endangered Fish Species; Colorado Pikeminnow, razorback sucker, bonytail chub, and humpback chub:

Throughout most of the year, juvenile, subadult, and adult Colorado pikeminnow utilize relatively deep, low-velocity habitats that occur in nearshore areas of main river channels. However, in spring when discharge is high due to snow-melt runoff, Colorado pikeminnow adults utilize flood plain wetlands, flooded tributary mouths, flooded side canyons, and eddy habitats that are accessible only during high flows.

Habitats used by adult razorback suckers in rivers of the Upper Colorado River Basin include deeper runs, eddies, backwaters, and, at higher discharges, flooded off-channel environments in spring (the latter apparently including movements from the colder main channel into warmer habitats, a behavior called "staging," before spawning); runs and pools often in shallow water associated with submerged sandbars in summer; and low-velocity runs, pools, and eddies in winter. Young razorback suckers require nursery environments with quiet, warm, shallow water such as tributary mouths, backwaters, or inundated flood plain habitats in rivers and coves or shorelines in reservoirs.

The bonytail is considered a species that is adapted to main stem rivers, where it has been observed in pools and eddies. Spawning of bonytail has never been observed in a river, but ripe fish were collected in Dinosaur National Monument during late June and early July suggesting that spawning occurred at water temperatures of about 17° C. The bonytail is the rarest native fish in the Colorado River.

The humpback chub evolved in seasonally warm and turbid water and is highly adapted to the unpredictable hydrologic conditions that occurred in the pristine Colorado River system. Humpback chubs are apparently well adapted to canyon environments and individual adults exhibit high fidelity to particular locales.

Though none of these species are known to occur within the boundaries of the project, potential habitat does occur approximately 18 miles downstream in the Green River, which has been designated critical habitat for these four species by the US Fish and Wildlife Service. The mouth of Nine Mile Creek likely serves as a back water habitat used by Colorado pike minnow young of the year.

Toxicity Risk to Fish:

A toxicity risk analysis provided with the BA (Appendix 2), determined that a contaminant release 740 times larger than the worst case scenario analyzed would have to occur to produce levels that are acutely toxic in the Green River. Chronic exposures would require a continuous discharge of condensate for a minimum of 96 hours in quantities 530 times greater than those analyzed. Based upon the remote probability of acute or chronic toxicity presented by the risk analysis and the aforementioned applicant-committed mitigation measures, we do not believe that take of the four fish species due to toxic releases will result from this project. In addition, due to the commitment to a leak detection and emergency response system and the distance to the Green River, habitat degradation from toxic releases will be minimized to the insignificant level.

Depletion Consultation:

The proposed action will cause an average annual depletion of approximately 46 acre-feet to the Green River in the Upper Colorado River Basin. A Recovery Implementation Program for Endangered Fish Species in the Upper Colorado River Basin (Recovery Program) was initiated on January 22, 1988. The Recovery Program was intended to be the reasonable and prudent alternative to avoid jeopardy to the endangered fishes by depletions from the Upper Colorado River Basin.

In order to further define and clarify the process in the Recovery Program, a section 7 agreement was implemented on October 15, 1993, by the Recovery Program participants. Incorporated into this agreement is a Recovery Implementation Program Recovery Action Plan (Plan) which identifies actions currently believed to be required to recover the endangered fishes in the most expeditious manner.

Included in the Recovery Program was the requirement that a depletion fee would be paid to help support the Recovery Program. On March 9, 1995, the Service issued an intra-Service biological opinion determining that the depletion fee for depletions of 100 acre-feet or less are no longer required because the Recovery Program has made sufficient progress to be the reasonable and prudent alternative to avoid the likelihood of jeopardy to the endangered fishes and to avoid destruction of adverse modification of their critical habitat by depletions of 100 acre-feet of less. Therefore, the depletion fee for this project is waived.

If the total average annual amount of water depleted by this project changes, section 7 consultation for the Colorado River fish should be reinitiated. In addition, should project plans change, or if additional information on the distribution of the listed or proposed species becomes available, the determinations in this letter may be reconsidered.

Candidate Species:

Graham beardtongue (*Penstemon grahamii*): Areas suspected to contain potential habitat for Graham beardtongue consist of sparsely vegetated desert shrub and pinyon-juniper communities on shaley talus knolls between 4,600 and 6,700 feet elevation. The species flowers from May to mid June. Surveys in 2003 did not reveal its presence. However, BLM and BBC have committed to the following conservation measures:

Site inventory for this species will be required for all proposed disturbed areas prior to initiation of construction work.

2 Upon discovery of populations or individual plants of this species, project sites will be modified to avoid disturbance.

Based on the previously discussed protective measures, we also believe that the proposed alternative will not likely adversely affect a candidate species, the Graham beardtongue.

Candidate species have no legal protection under the ESA. Candidate species are those species for which we have on file sufficient information to support issuance of a proposed rule to list under the ESA. Identification of candidate species can assist environmental planning efforts by providing advance notice of potential listings, allowing resource managers to alleviate threats and, thereby, possibly remove the need to list species as endangered or threatened. Even if we subsequently list this candidate species, the early notice provided here could result in fewer restrictions on activities by prompting candidate conservation measures to alleviate threats to this species.

We appreciate your interest in conserving endangered species. If further assistance is needed or you have any questions, please contact Diana M. Whittington, Fish and Wildlife Biologist, at (801) 975-3330 extension 128.

cc: BLM State Office – Ron Bolander
UDWR – Price Field Office

Literature Cited

Delaney, D.K., and Grubb, T.G. Sound Recordings of Road Maintenance Equipment on the Lincoln National Forest, New Mexico. A Report to San Dimas Technolgy and Development Center, November 2003.

Romin, L.A., and J.A. Muck. 2002. Utah Field Office Guidelines for Raptor Protection from Human and Land Use Disturbances. U.S. Fish and Wildlife Service., UT Field Office, Salt Lake City, UT.

Willey, D.W. Assessing the Impact of Scale Upon the Performance of GIS Habitat Models for Mexican Spotted Owls in Utah. Draft Report to the Utah Division of Wildlife Resources, October 2002.